Understanding Debt at Older Ages and Its Implications for Retirement Well-being

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October 24, 2018

PRC WP2018-11
Pension Research Council Working Paper
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This project received funding from the TIAA Institute and Wharton School's Pension Research Council/Boettner Center. The content is solely the responsibility of the authors and does not necessarily represent official views of the TIAA Institute or Wharton School's Pension Research Council/Boettner Center.

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Abstract

We use data from the 2015 National Financial Capability Study to analyze debt close to retirement. We show people carry many types of debt late in their lifetimes, and these types of debt are differently linked to measures of financial distress such as having too much debt or being unable to face a financial shock. Accordingly, it is important to be able to disaggregate debt to investigate reasons why individuals carry debt close to retirement. We show that lack of financial literacy, lack of information, and behavioral biases all help explain the prevalence of debt later in life. Our evidence indicates that debt at older ages can may negatively influence retirement well-being.

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Opportunities to borrow increased significantly in the United States over the last few decades, and consumers are now in the historically unusual position of having access to larger mortgages and other loans than ever before. This has resulted in a substantial rise in Americans' indebtedness, with many older persons approaching retirement holding high levels of debt. Our previous research has shown that the percentage of people arriving close to retirement with debt grew from 64% in 1992 to 71% in 2010 (Lusardi, Mitchell, and Oggero, 2018). Moreover, the value of debt held by people on the verge of retirement (age 56-61) also grew sharply: thus, median household debt for this group in 1992 was under $6,800, but by 2004 it had more than quadrupled in real terms. In 2010, it was $32,700, nearly five times the 1992 level (in 2015 dollars).

Similar findings were reported by Brown et al. (2016) who showed that debt held by borrowers between the ages of 50 and 80 increased by roughly 60% percent from 2003 to 2015, while aggregate debt balances of younger borrowers declined modestly over the same period. In 2015, older borrowers held substantially more of nearly all types of debt than did borrowers in the same age group in 2003. Much of the rise resulted from larger home mortgages, yet other debt including credit card and medical debt also swelled over time (Lusardi, Mitchell, and Oggero, 2017).

One consequence of this change over time is that some components of debt, such as credit card and other non-collateralized borrowing, charge high interest rates, which in turn contribute to financial distress in the older population. Pottow (2012) showed that elder debtors carry 50% more credit card debt than did younger debtors, and that interest and fees on credit cards are a reason for elders' greater bankruptcy filings compared to younger filers. And in addition to holding more credit card debt, people near retirement also engage in other expensive financial behaviors, such as making

late credit card payments and exceeding limits on credit card charges (Lusardi, 2011; Lusardi and Tufano, 2015).

This rising trend in indebtedness at older ages has important implications for retirement security, since it will require many older Americans to allocate larger fractions of their income to service their debt at older ages, given their already-limited financial resources (US GAO 2015). And though concerns related to rising debt and widespread borrowing are widespread, much of the current discussion about retirement security has failed to take debt into account, focusing mainly on inadequate savings. Nevertheless, if retirees are to avoid outliving their resources, they must be able to manage not only their assets, but also their debt. This paper contributes to the literature by examining the factors associated with older people's debt, and highlighting signs of financial distress among individuals who should be at the peak of their wealth accumulation profiles. We also examine potential explanations for why people continue to carry debt near and into retirement.

To this end, we use data from the 2015 wave of the National Financial Capability Study to illustrate the various types of debt held close to retirement. We find that a sizeable proportion of the older population is holding debt associated with high interest payments and fees. There is also a strong correlation between the types of debt instruments held: that is, those who use one source of high cost debt are also likely to use other expensive types of debt. We work with two proxies for financial distress that summarize older individuals' difficulties managing debt close to retirement, and we find that those facing difficulty with debt are disproportionately ethnic minorities and those with low income. Moreover, there is an education divide when it comes to debt close to retirement: even after accounting for income, the least-educated are more likely to be suffering debt-related financial distress. We investigate three potential explanations for the observed patterns: lack of financial literacy, lack of information, and behavioral biases. We demonstrate that each of these factors helps explain why many older persons near retirement hold excessive debt that are likely to create future financial difficulties.

In what follows, we first provide an overview of our data and methodology. Next, we outline the types of debt individuals carry close to retirement and examine the demographic characteristics of debt holders. We also illustrate the correlation among different types of debt held, and we develop two indicators for financial distress closely linked to debt. Last, we examine the characteristics of older persons experiencing debt-related distress and evaluate the importance of several different explanations for debt behavior, followed by concluding remarks.

The NFCS Sample

The canonical life cycle model of saving posits that adults nearing retirement will be at or near the peak of their wealth accumulation processes; accordingly, their major decision is about how to spend down their wealth so as to last them a lifetime. Given the likely drop in labor earnings they face, and the fact that pensions and Social Security do not replace 100% of pre-retirement earnings, it stands to reason that they should seek to pay down their debt, and if possible carry debt charging low interest rates, to help them preserve their assets to pay for consumption during retirement.

We examine whether many real-world households follow this prescription by examining the financial situations of older Americans approaching retirement using data from the 2015 wave of the National Financial Capability Study (NFCS). Supported by FINRA Investor Education Foundation, the NFCS is a triennial survey first conducted in 2009 with the goal of assessing and establishing a baseline measure of financial capability among American adults. The NFCS has a large number of observations (over 27,000 in 2015), allowing researchers to study population subgroups such as the ones we examine here, namely persons age 56-61 (before they are eligible to claim Social Security retiree benefits).[1] The 2015 wave included several questions available in two prior NFCS surveys (2009 and 2012), yet it also included new queries about several topics of key interest to our present research. In particular, it added several new questions about student debt and financial literacy related

[1] This age range of respondents coincides with what we have examined in our previous work but using older data (Lusardi and Mitchell, 2013; Lusardi, Mitchell, and Oggero, 2017, 2018).

to debt and debt management. Additionally, and uniquely, it also provides information about non-traditional methods of borrowing, such as payday loans, pawn shops, rent-to-own products, and auto title loans. The NFCS also includes invaluable self-assessed measures of the burden of debt and financial fragility.[2]

To construct our analysis sample, we first extracted from the 2015 NFCS the set of 2,942 respondents age 56-61. Next, we excluded respondents lacking information about borrowing behaviors or other key characteristics. Our final sample is composed of 2,672 respondents, who are observationally comparable to the full sample (see Appendix A for descriptive statistics).

Assessing Near-retirees' Debt

Holding debt late in life may raise concerns about near-retirees' ability to manage this debt in the face of job loss, illness, or other economic and financial shocks. Servicing debt can also force older individuals to reconsider their retirement decisions (Lusardi and Mitchell, 2017). Though the economics literature has to date devoted sparse attention to older Americans' balance sheets, using the 2015 NFCS data we find that 56-61 year old respondents carry many different types of debt close to retirement, both long- and short-term. Moreover, they tend to hold high-cost debt, which typically charges more than the rates older people are likely to earn on their assets.

Table 1 offers a first picture of our findings. While over 7 of 10 near-retirees own a home, more than one-third of them (37%) still have a home mortgage, and 11% have outstanding home equity loans. For some, managing mortgages is difficult and/or they are under water: 10% of those with mortgages have been late with mortgage payments at least once in the previous year, and 9% of those with mortgages or equity loans reported owing more on their homes than they believe they could sell them for. Many older individuals also carry car loans: 30% report having a loan they took out in order to purchase a motor vehicle.

[2] Some of these questions were designed in collaboration with one of the authors of this study.

Table 1 here

Near-retirees are already tapping into their retirement accounts; about 8% of those who have retirement accounts took a loan or a hardship withdrawal in the previous 12 months.[3] And though they are on the verge of retirement, some still carry student loans they took out for themselves: that is, in our age group, many have borrowed against their future income for student loans, such that 6% of the older NFCS respondents are still paying off student loans.[4]

In addition to long-term debt, older individuals also borrow short-term, sometimes from themselves, such as by delaying payments due or overdrawing their bank accounts. Specifically, while most of the individuals age 56-61 have a checking account (95% of the sample), 13% of the respondents overdraw it occasionally. About 19% of older persons have past due bills from a health care or medical service provider such as a hospital or a doctor's office.

This group of near-retirees also engages in borrowing behaviors that are likely to generate fees and steep interest payments. For instance, over one-third of our respondents (36%) carry a balance on their credit cards and were charged interest, while 23% exhibit what we call expensive credit card behaviors, such as paying the minimum only, paying late or over-the-limit fees, or using credit cards for cash advances. Moreover, 17% of our respondents have borrowed from alternative financial services in the past five years, using for example payday loans, auto title loans, rent-to-own, and pawn shops. These non-bank financial services are high-cost borrowing methods, as they tend to charge much higher interest than people can earn on their assets, sometimes higher than 400% per year. Accordingly, many older Americans will enter retirement with collateralized lower-interest debt, but also non-collateralized loans that charge high interest rates.

Debt by Socio-Demographic Characteristics

[3] We exclude borrowing from retirement accounts in our analysis, because just 58% of people age 56-61 have retirement plans where they get to choose how the money is invested, or other retirement accounts they have set up themselves.
[4] Here we focus on student loans people took out for their own education because this type of debt could be of concern to individuals approaching the end of their working career.

Table 2 reports debt experience in our analysis sample as well as for subgroups by education, income, and ethnicity. Almost all debt behaviors show a monotonic relationship with educational levels, which we group into three categories: High school degree or less (≤High School), some college, and a Bachelor's degree or higher education (College+). The best-educated are much less likely to use high cost borrowing, such that one-tenth of the College+ engage in alternative financial services, compared to twice that many (21%) of those without a Bachelor's degree. A similar education divide is observed for unpaid medical bills, with 11% of College+ having medical debt, versus 21-23% of the less well-educated. The opposite is observed for home mortgages and to a lesser extent, home equity loans: thus 42% of the College+ have a home mortgage, compared to one-third (35%, 33%) of respondents with some or no college.

Table 2 here

In addition to the educational divide, our data also reveal a clear difference in terms of the types of debt by income. Respondents with household income below $35,000 are 13 percentage points (30% versus 17%) more likely to use alternative financial services compared to those with income $35,000-$75,000, while just 7% of those with income over $75,000 did so. The data also show that the lowest income group is more likely to be behind in their bills, overdraw their checking account, and report expensive credit card behaviors.[5]

Turning to long-term debt, we see that the highest income group is, not surprisingly, more likely to have mortgages, home equity loans, and auto loans. By contrast, people in the lowest income group are more likely to have an outstanding student loan for their own education. Interestingly, 74% of the lowest-income respondents with student loans had not earned a Bachelor's degree, making it more difficult to earn income needed to repay their student debt.

[5] In our previous research, expensive credit card behaviors have been defined as paying the minimum amount due, running late fees, incurring over-the-limit fees, and using the credit card to get cash advances (Lusardi and Tufano, 2015). While in the NFCS, we do not have information on the card balance carried over, we do know that these four behaviors characterize a costly use of credit cards.

Finally, Table 2 reports a breakdown of debt by type for different ethnic groups, and we see that some population subgroups are relatively more likely than others to use expensive forms of credit. In particular, older African Americans are far more likely to use alternative financial services, have medical debt, overdraw their checking account, and exhibit expensive credit card behaviors. They are also much more likely to have borrowed for their own education: 17% of our older African American sample still has student debt, compared to 5% of Whites, 6% of Hispanics, and 1% of Asians.

In summary, older Americans close to retirement hold distinct types of debt. Older higher-income and better-educated people tend to have long-term debt, including mortgages. Lower-income and less-educated older persons tend to rely on alternative financial services and have medical debt. Those carrying credit card debt tend to fall in-between these two groups. In the next section, we explore correlations across debt types and indicators of financial distress.

Are Types of Debt Held at Older Ages Correlated?

Since people can engage in several types of debt simultaneously, we next look to identify whether older Americans engage in multiple borrowing, and if so, who does and what types of debt they carry. To this end, we analyze correlations among different types of debt behaviors on the verge of retirement.

Table 3 shows that three different types of debt behaviors are highly correlated for our older respondents. Behaviors related to short-term debt are highly correlated. Specifically, having unpaid medical bills, using alternative financial services, and overdrawing the checking account are highly correlated. Moreover, people who pay credit card fees also report these three borrowing behaviors. Additionally, there is positive and significant correlation across types of long-term (collateralized) debt such as having a mortgage, having a home equity loan, and having an auto loan. We also find that having a home mortgage is negatively correlated with using alternative financial services, having unpaid medical bills, and having student loans at older ages; a finding in line with the analysis across demographic characteristics discussed earlier. Interestingly, those still holding student loans for their

own education are most likely to use non-traditional methods of borrowing. In sum, these correlations again point to a clear differentiation between peoples' use of debt.

Table 3 here

Indicators of Financial Distress

Thus far, we have shown that people nearing retirement have various types of debt, and those with similar socio-economic characteristics tend to have similar types of debt. To study whether debt behaviors are related to financial stress and eventually retirement insecurity, we turn to two NFCS questions asking our older respondents to evaluate their financial situations.[6] First, we use a self-reported measure developed by Lusardi and Tufano (2015) where people rated their agreement with the following statement: "I have too much debt right now," on a scale from 1 to 7, with 7 representing the greatest agreement. We classify as feeling over-indebted those who chose scores from 5 to 7 on this question, where 7 corresponds to "strongly agree," 4 to "neither agree nor disagree," and 1 to "strongly disagree." A second measure of financial distress gauges peoples' ability to cope with financial emergencies. We measure this with a question asking respondents how confident they are that they could come up with $2,000 in 30 days, if an unexpected need arose. Possible answers are "I am certain I could come up with the full $2,000," "I could probably come up with $2,000," "I could probably not come up with $2,000," and "I am certain I could not come up with $2,000." We categorize as financially fragile those who probably or certainly could not come up with that amount.[7] This indicator evaluates the coping ability of respondents over a month, allowing individuals to consider different resources they could access in an emergency. The $2,000 amount represents a mid-size shock, such as a car repair or medical bill, which can be commonplace in everyday lives. This measure is particularly informative because it proved to be related not only to the lack of liquidity

[6] Note that the NFCS does not report any information on both debt and asset values.
[7] This measure of financial fragility was piloted in the TNS Global Economic Crisis Study (Lusardi, Schneider, and Tufano, 2011). Hasler, Lusardi, and Oggero (2018) provide a detailed analysis of this variable.

and other assets, but also to households' borrowing capacity and debt situation (Hasler, Lusardi, and Oggero, 2018).

When asked to evaluate their debt, a relative high proportion of near retirees—more than one third (36%) of people age 56–61—indicated they held too much. Consistent with the result described earlier, this confirms that many older Americans feel heavily indebted, even when they should be near the peak of their wealth accumulation prior to retirement. Similarly, the self-reported extent of financial fragility is also remarkably high, with close to one-third (30%) of the older respondents stating they could not shield themselves against financial shocks (see notes to tables 4).

To investigate which types of debt are associated with financial fragility, we perform a factor analysis which aggregates and clusters the information presented so far regarding debt. Overall, that analysis (details are provided in Appendix B) shows that short-term uncollateralized debt is strongly indicative of financial distress for this age group. There is one notable exception: long term debt, such as student loans, is also associated with financial distress nearing retirement. However, as the factor analysis is carried out only on the basis of indebtedness without referring to debt holders' demographic characteristics, next we implement a multivariate analysis of debt and financial fragility indicators including the richer set of controls available in the NFCS.

Multivariate Analysis of Financial Distress Indicators

Marginal effects from Probit regressions of our two key indicators of financial distress are reported in Table 4. People indicating they have too much debt and are financially fragile are significantly more likely to be women and have more dependent children. By contrast, the less financially distressed by both measures have higher household income, and are older. The latter finding suggests that, all else equal, people continue to pay back their debt as they age.

Table 4 here

Less consistent results are observed for the other controls. For instance, African-Americans report feeling relatively more financially fragile, yet they do not report having too much debt. The

best-educated respondents are least likely to report feeling fragile, but education is not consistently statistically significant across equations.

In sum, these results underscore some of the descriptive results mentioned earlier. Nevertheless, more remains to be learned about why people arrive near retirement with so much, and potentially too much, debt leaving them vulnerable to financial shocks. Accordingly, in the next section, we turn to some additional explanations for observed patterns.

Inside the Black Box of Financial Fragility

To delve more deeply into the explanations driving debt at older ages, we next investigate three potential factors: low financial literacy, lack of information, and behavioral biases. Our analysis relies both on the 2015 NFCS along with other information available from previous waves, to be detailed below.

Low financial literacy. Older Americans are increasingly being confronted with the need to take on greater responsibility for financial decisions influencing their wellbeing at older ages, including saving for retirement, investing, and drawing down their retirement wealth. Such financial decisions require that people have a basic understanding of financial topics; yet prior research has found compelling evidence linking financial literacy to debt management. For instance, less financially savvy persons tend to incur higher fees and borrow at higher rates (Lusardi, 2011; Lusardi and Tufano, 2009, 2015). Moreover, those less financially literate tend to report that their debt loads are excessive and they tend to use non-bank methods of borrowing (Lusardi and de Bassa Scheresberg, 2013). In addition, more financially literate people tend to plan for retirement, which positively affects their financial security at older ages (Lusardi and Mitchell 2011a, b). Financial literacy has also been shown to account for 30-40% of wealth inequality (Lusardi, Michaud, and Mitchell, 2017). What remains to be done is to evaluate the role of financial literacy among older persons nearing retirement.

To this end, we turn to the so-called "Big Five" questions that were devised to evaluate people's capacity to do simple interest rate calculations, to understand inflation and risk

diversification, to evaluate how mortgages work, and to understand asset pricing. In addition, to hone in on the problem of debt at older ages, we also considered a sixth question about interest compounding in the 2015 wave of the NFCS. The precise wording of the questions is given below, with the correct answers indicated in bold.

Interest question
Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

- **More than $102**
- Exactly $102
- Less than $102
- Don't know
- Prefer not to say

Inflation question
Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

- More than today
- Exactly the same
- **Less than today**
- Don't know
- Prefer not to say

Risk diversification question
Buying a single company's stock usually provides a safer return than a stock mutual fund.

- True
- **False**
- Don't know
- Prefer not to say

Mortgage question
Please tell me whether this statement is true or false. "A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less."

- **True**
- False
- Do not know
- Prefer not to say

Bond pricing question
If interest rates rise, what will typically happen to bond prices?

- They will rise
- **They will fall**
- They will stay the same
- There is no relationship between bond prices and the interest rates
- Do not know
- Prefer not to say

Compounding question
Suppose you owe $1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double?

- Less than 2 years
- **At least 2 years but less than 5 years**
- At least 5 years but less than 10 years
- At least 10 years
- Do not know
- Prefer not to say

Some might anticipate that people nearing retirement would have acquired the financial knowhow required to manage financial decisions, and borrowing in particular, but this surmise is disproved by the results in Table 5. Here we see that older Americans only answered 3.69 questions of the six financial literacy questions correctly, on average, performing only moderately better than the entire NFCS sample (scoring 3.15 correct on average). A disaggregate view of the questions is provided in the first column of Table 5, which reports the percentage of our older sample scoring correctly on each of the financial literacy questions. Some topics like mortgage payments and simple interest rate are relatively more familiar to people who have made many financial decisions. Nevertheless, over 20% of these older respondents did not understand the workings of inflation. Additionally, the percentage of correct answers decreased dramatically when we focus on responses related to investing. Only 55% of respondents know about risk diversification, and just over one-third comprehended the link between interest rates and bond prices.

Table 5 here

It is also clear that interest compounding in the context of debt was not understood; only about one-third (35%) of our sample answered this question correctly. Interestingly, this is similar to a 2008 survey cited by Lusardi and Tufano (2015), who reported that 38% of those age 51-65 could correctly perform an interest-compounding calculation. Accordingly, knowledge about interest compounding is low and has not improved over time in this age bracket. Even more concerning is the fact that 40% of respondents overestimated the amount of time it would take for debt to double when borrowing at

a high interest rate. In addition, one in five respondents in our sample simply did not know the answer to this question.

Table 5 also reports financial literacy scores by education, income, and ethnicity. As before, there is a strong association with income and education: the higher-income and better-educated are more likely to answer the financial literacy questions correctly. African Americans tend to score the lowest in terms of the total financial literacy score as well as each individual question in this descriptive analysis, while Asians score highest on average.

Additionally, as we are interested in exploring the link between debt management and financial literacy, Table 6 reports the correlations between financial literacy total scores and each type of debt behavior. Interestingly, respondents who used alternative financial services answered just half of the financial literacy questions correctly, like those who had outstanding medical debt. Also, the least financially literate people were also likely to have a student loan outstanding, overdraw occasionally from their checking account, and display expensive credit card behaviors. By contrast, those having mortgages, home equity loans, or auto loans, performed better than average on the financial literacy test. In other words, financial literacy performance is clearly linked to debt behavior.

Table 6 here

A deeper analysis of the determinants of financial distress appears in Table 7, where we assess the factors affecting self-reported over-indebtedness and financial fragility, but now include financial literacy as an additional control. Interestingly, people scoring higher on the financial literacy tests were also less likely to report that they held too much debt. Other coefficient estimates are similar to those reported above. The second column of Table 7 demonstrates that financial literacy is also a predictor of financial fragility. That is, even after controlling for all the other factors discussed above, financial knowledge helps people manage their resources and stay out of debt as they approach retirement.

Table 7 here

While we are aware that financial literacy could be an endogenous variable, we note that Probit estimates such as those reported in the Table 7 might even underestimate the importance of financial literacy (Lusardi and Mitchell, 2011b).

Lack of information. Another problem facing those nearing retirement is that making financial decisions requires knowing what information to obtain if one is to successfully manage one's resources in old age. To explore debt decisions, the 2009 NFCS dataset does provide additional insight about the information people gathered during their decision process. Yet, as age was not recorded as a continuous variable in that survey, we focus on individuals age 55-64 in what follows.[8]

In this older sample, we learn that people had little or no information on critical variables. For instance, Table 8 shows that 30% of those with auto loans did not know the interest rate they were paying, and 11% of individuals with a mortgage did not know their mortgage interest rates. Almost one in four (24%) of those with mortgages did not know whether they had an interest-only mortgage or a mortgage with an interest-only option. Among near-retirees who had at least one credit card, almost one-fifth (23%) of those who did not always pay their credit card in full stated that they did not know the interest charged on the card where they had the largest balance. Clearly, many near-retirees were making borrowing decisions without knowing much about the debt they were assuming.

Table 8 here

Another way we examine how individuals borrow is provided by answers to questions about whether they compared similar types of credit offered by different providers. Over half (51%) of near-retirees with an auto loan, and 38% of those with a mortgage, did not compare offers, and only one-third of credit card holders collected information from more than one card company. In other words, people with years of borrowing experience did not do much to obtain pricing information and did not shop around to get good terms.

[8] In the 2009 wave of the NFCS, 4,543 out of 28,146 respondents belong to the age group 55-64.

The 2009 NFCS also shows that many near-retirees were unaware of their credit scores, a key factors driving the interest rates charged on mortgages, loans, and other instruments (Lusardi, 2011). In fact, 55% of people age 55-64 in the 2009 NFCS had not checked their credit scores in the previous year, and almost the same percentage (54%) did not obtain their credit reports. Once again, we observe a clear divide by income and education: those who obtained a credit report or checked their credit score sharply increased with household income and educational level.

There is also unique information in the 2015 NFCS on student loan behaviors and attitudes. We previously noted that 6% of near-retirees still hold student loans taken out for their own education. Older people also had taken on student loans for others, including for spouses, partners, children, and grandchildren. Considering all educational debt, 15% of all respondents age 56-61 held student debt in the 2015 NFCS. Even more concerning is that many borrowers did not fully comprehend what they were getting into when they took out these loans (FINRA Investor Education Foundation, 2016). Specifically, over half (56%) of borrowers in this age group did not try to figure out how much their future monthly payments would be, before taking out the loans. Not surprisingly, 44% of those with student loans at older ages expressed concern about their ability to pay off this debt, and the percentages were far higher for the lower income subgroup.

Many, but not all, student debt repayment plans are income-driven to make student debt more manageable, yet one in five of older student loan borrowers indicated that they did not know whether their payments were determined by their income. This suggests that the current repayment system is too complex and confusing for borrowers, and that those borrowing collect insufficient information about the consequences of this debt (Lusardi, de Bassa Scheresberg, and Oggero, 2016). Interestingly, over half (51%) of these older student loan borrowers indicated that, if they could go through the borrowing process again, they would do something differently.

Behavioral biases. The evidence on heavy debt burdens held by many Americans may suggest that behavioral biases could be responsible for observed borrowing patterns. In what follows, we review

some of the literature regarding biases influencing decisionmaking around debt, and we offer an assessment of the extent to which these can explain the evidence provided in the previous sections.

The emergent field of behavioral economics extends the standard understanding of financial decision-making with insights from psychological research. One of its central contributions is to recognize psychological factors driving behavior, such as, for example, lack of self-control (Benton, Meier, and Sprenger, 2007). Gathergood (2012a) showed that consumers having self-control problems were more likely to report over-indebtedness and make greater use of high cost credit products, such as store cards and payday loans. Similarly, individuals favoring immediate gratification had higher levels of unsecured debts on revolving accounts like credit cards (Benton, Meier, and Sprenger, 2007). Additional research by Achtziger et al. (2015) suggested that compulsive buying serves as a link between self-control skills and impulse control: that is, people lacking self-control buy compulsively, in turn affecting debt. Impulsivity driving debt decisions has also been confirmed by Ottaviani and Vandone (2011), who showed that impulsivity predicted unsecured debt like consumer credit, but it was not significantly associated with secured debt such as mortgages. This finding may explain why the short-term high-cost debt we found above is associated with self-reported financial distress.

Lack of self-control and impulsive spending behavior can also help explain the "co-holding puzzle," i.e., the co-existence of high cost revolving consumer credit together with low-yield liquid savings (Gathergood and Weber, 2014; Bertaut, Haliassos, and Reiter, 2009). The notion is that consumers can minimize their vulnerability to impulsive spending by maintaining revolving consumer debt while simultaneously having savings accounts that are less accessible for immediate consumption. Laibson, Repetto, and Tobacman (2000) identified hyperbolic time preferences as a possible resolution of this debt puzzle: that is, some consumers act inconsistently, acting patiently when accumulating illiquid wealth, but impatiently when using credit cards. In such a scenario, simulated consumers with hyperbolic time preferences would tend to borrow on credit cards and accumulate relatively large stocks of illiquid wealth by retirement. Telyukova (2013) also suggested

that households which accumulate credit card debt may not be able to pay it off using their bank accounts because they anticipate needing that money in situations where credit cards cannot be used.

Another source of suboptimal decision-making related to credit cards is known as "anchoring." This arises since credit card companies indicate on their bills the "minimum amount due," an amount generally less than the full bill. Keys and Wang (forthcoming) showed that this minimum payment acts as a lower psychological repayment bound for a majority of consumers, so anchoring can generate suboptimally high debt levels.

Still another behavioral bias linked to household decisionmaking around debt refers to "exponential growth bias," or peoples' tendency to linearize exponential growth and hence to underestimate the future value of a variable growing at a constant rate. For example, Stango and Zinman (2009) showed that this could explain peoples' propensity to underestimate the effect of high interest rates; moreover, they found that more biased households borrowed more and saved less. Although this bias is conceptually distinct from peoples' lack of financial literacy, Almenberg and Gerdes (2012) discovered that exponential growth bias was negatively correlated with financial literacy. Accordingly, studies of the relationship between the bias and household financial decisions should include controls for financial literacy to isolate the effect of this bias.

Stango and Zinman (2006) also documented a pervasive bias among US consumers who systematically underestimated the interest rate associated with a loan principal amount and stream of repayments. They found that biased consumers held loans with higher interest rates but mainly when they borrowed from non-bank lenders. This result is consistent with the fact that non-bank lenders emphasize monthly payments rather than interest rates levied. It is not clear whether this is a true bias, or simply an indicator of lack of financial literacy. A more complete study by Gathergood and Weber (2017) investigated behavioral biases in the presence of low financial literacy, and they showed that poor financial literacy and impatience boosted the likelihood of choosing mortgages with lower up-front costs but larger eventual payments. Indeed, the key feature of many alternative mortgage products is that payments often cover only the interest due, or in some cases, are less than

the value of the interest due for an initial period. As suggested by Cocco (2013), more complex mortgages paired with low levels of financial literacy may result in people not realizing that low initial mortgage payments imply larger future loan balances. Others have found that people with present-biased preferences are also more likely to have credit card debt and higher credit card balances (Meier and Sprenger, 2010), and fail to stick to their self-set debt paydown plans (Kuchler and Pagel, 2018). Campbell et al. (2011) argued that many present-biased consumers would display greater patience if they could commit to a plan of savings and future consumption.

Besides the behavioral biases discussed so far, individual debt choices may also be affected by social norms including shared ideals that drive behavioral expectations around finances. For instance, Almenberg et al. (2018) argued that higher debt levels could be due to a cultural shift in attitudes toward debt, and their study concluded that individuals who reported being uncomfortable with debt had considerably lower debt-to-income ratios than others. Moreover, there may be an intergenerational transmission of attitudes toward debt which can change over time (Baum and O'Malley, 2003). This point was underscored by Gathergood (2012b), who reported that people who faced difficulties repaying their unsecured debt in high-bankruptcy areas experienced less psychological stress. This could be due to reduced social stigma associated with debt problems in areas where such problem is more prevalent. Moreover, Lea, Webley, and Levine (1993) found that serious debtors had slightly more permissive attitudes towards debt, as they knew more people who are in debt and were less likely to think that their friends or relatives would disapprove if they knew.

Discussion and Conclusions

This paper has reported that a sizeable proportion of older Americans carry debt, though they are on the verge of retirement. Also, people differ with regard to the types of debt they hold. Most crucially, those with short-term uncollateralized debt tend to be those most subject to financial distress, as well as those holding student loans. In the 2015 NFCS, we find that women, the low-

income, and African Americans tend to be those most vulnerable to financial fragility due to debt at older ages. Higher-income and older persons tend to be better protected against these stresses.

Several explanations can be put forward to understand why individuals carry debt late in the life cycle. In addition to explanations related to demographic factors and income, we also investigated the importance of lack of financial literacy, lack of information, and behavioral biases. More research will be necessary to pin down the precise quantitative importance of each explanation, yet our analysis indicates they are all promising explanations for why so many individuals carry debt close to retirement, with potentially erosive implications for retirement well-being.

Our analysis has several implications for policy makers, practitioners and the financial and pension industry. While much attention has been devoted to savings in the life cycle literature, our findings demonstrate that it is also crucial to also pay attention to debt and debt management. One way to do so is for workplace programs targeted at workers to add discussions on debt and debt management; for example, workplace financial wellness programs could cover topics beyond investing and saving. In view of the fact that so many people carry student loans late in their lifetimes, it could also be important to add financial education in school, from high school to college and beyond, with lectures explicitly devoted to debt and debt management. As the responsibility to save for retirement is increasingly shifted to individuals over time, it is important to make sure that individuals have the skills not only to manage their assets, but also their debt.

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Table 1. Self-Reported Debt and Borrowing Behaviors among Older Households in the NFCS

	% of debt holders
Home mortgage	37.1
Home equity loans	10.8
Auto loan	29.6
Student loan for themselves	6.4
Alternative financial services	17.5
Unpaid medical bills	18.6
Overdraw the checking account occasionally	13.4
Credit card fees and expensive behaviors	23.0
Carry over a balance on the credit card and be charged interest	36.4
Underwater with home value *	8.9
Late with mortgage payments, at least once *	9.6
Loan or hardship withdrawal from retirement accounts *	8.0
N	*2,672*

Note: 2015 NFCS respondents age 56-61 (see text). Alternative financial services refer to the use of payday loans, auto title loans, rent-to-own or pawn shops. Credit card fees and expensive behaviors include paying the minimum only, paying late or over-the-limit fees, and using the card for cash advances.
* Values conditional on holding the asset or debt.

Table 2. Debt among Older NFCS Adults by Education, Income, and Ethnicity (%)

	Analysis sample	High school or less	Some college	College or more	Income <$35K	Income $35-75K	Income >$75K	White	African American	Hispanic	Asian	Other
Home mortgage	0.37	0.33	0.35	0.42	0.18	0.38	0.52	0.38	0.30	0.43	0.31	0.30
Home equity loans	0.11	0.07	0.11	0.13	0.04	0.10	0.17	0.11	0.06	0.14	0.20	0.04
Auto loan	0.29	0.32	0.30	0.28	0.15	0.34	0.38	0.31	0.26	0.29	0.17	0.24
Student loan for themselves	0.06	0.02	0.07	0.08	0.11	0.06	0.02	0.05	0.17	0.06	0.01	0.15
Alternative financial services	0.17	0.21	0.21	0.10	0.30	0.17	0.07	0.14	0.36	0.21	0.10	0.28
Unpaid medical bills	0.19	0.21	0.23	0.11	0.31	0.20	0.07	0.17	0.29	0.18	0.06	0.21
Overdraw the checking account occasionally	0.13	0.12	0.16	0.10	0.17	0.15	0.08	0.12	0.23	0.16	0.13	0.21
Credit card fees and expensive behaviors	0.23	0.27	0.24	0.19	0.25	0.28	0.16	0.21	0.38	0.25	0.13	0.17
N	*2,672*	*621*	*1,154*	*897*	*815*	*903*	*954*	*2,092*	*280*	*147*	*71*	*82*

Note: 2015 NFCS respondents age 56-61 (see text). Alternative financial services refer to the use of payday loans, auto title loans, rent-to-own or pawn shops. Credit card fees and expensive behaviors include paying the minimum only, paying late or over-the-limit fees, and using the card for cash advances.

Table 3. Correlation Matrix: Debt and Borrowing Behaviors among Older NFCS Respondents

	Home mortgage	Home equity loan	Auto loan	Student loan for themselves	Alternative financial services	Unpaid medical bills	Overdraw checking account occasionally
Home equity loan	0.148						
Auto loan	0.191	0.063					
Student loan for themselves	-0.061	-0.037	0.015				
Alternative financial services	-0.100	-0.052	0.030	0.194			
Unpaid medical bills	-0.019	-0.027	0.042	0.138	0.304		
Overdraw checking account occasionally	0.011	0.016	0.088	0.122	0.236	0.270	
Credit card fees & expensive behaviors	0.057	0.068	0.090	0.050	0.146	0.195	0.219

Note: 2015 NFCS respondents age 56-61 (see text). Alternative financial services refer to the use of payday loans, auto title loans, rent-to-own or pawn shops. Credit card fees and expensive behaviors include paying the minimum only, paying late or over-the-limit fees, and using the card for cash advances.

Table 4. Multivariate Regression Model of Older NFCS Respondents' Self-Assessed Debt and Financial Fragility (Probit marginal effects)

	Having "Too much debt"	Financial fragility
Female	0.068***	0.070***
	(0.019)	(0.018)
Age	-0.015**	-0.010*
	(0.006)	(0.005)
African American	0.042	0.145***
	(0.032)	(0.034)
Hispanic	-0.043	0.055
	(0.040)	(0.043)
Asian	-0.096*	-0.108**
	(0.056)	(0.050)
Other	0.090	0.142**
	(0.058)	(0.062)
High school	0.067	-0.032
	(0.072)	(0.061)
Some college	0.075	-0.061
	(0.068)	(0.061)
College or more	0.037	-0.117**
	(0.070)	(0.058)
Single	-0.076***	-0.003
	(0.027)	(0.027)
Separated or divorced	0.012	-0.033
	(0.027)	(0.024)
Widow	0.008	-0.006
	(0.044)	(0.040)
Having dependent children	0.067***	0.082***
	(0.025)	(0.026)
Income $15-25K	-0.052	-0.116***
	(0.037)	(0.027)
Income $25-35K	-0.012	-0.174***
	(0.043)	(0.022)
Income $35-50K	-0.106***	-0.247***
	(0.035)	(0.017)
Income $50-75K	-0.161***	-0.312***
	(0.033)	(0.017)
Income $75-100K	-0.206***	-0.321***
	(0.032)	(0.014)
Income $100-150K	-0.226***	-0.350***
	(0.031)	(0.013)
Income $150K+	-0.322***	-0.291***
	(0.021)	(0.011)
N	*2,672*	*2,672*

Note: 2015 NFCS respondents age 56-61 (see text). The variable *Having "Too much debt"* reflects the response to the following question: "How strongly do you agree or disagree with the following statement? 'I have too much debt right now," coded =1 if agreement with this sentence equals 5-7 where 7 corresponds to "strongly agree" and 0 if agreement equals 1 to 4. Mean value of the dependent variable *Having "Too much debt"* is 0.36. The dummy variable *Financial fragility* is the response to the following question: "How confident are you that you could come up with $2,000 if an unexpected need arose within the next month?" coded =1 for those who certainly or probably could not come up with $2,000, and 0 for those who certainly or probably could come up with $2,000. Mean value of the dependent variable *Financial fragility* is 0.30. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5. Financial Literacy of Older NFCS Respondents by Education, Income, and Ethnicity

	Total sample	≤High school	Some college	College+	Income <$35K	Income $35-75K	Income >$75K	White	African American	Hispanic	Asian	Other
Financial literacy index (0 to 6)	3.69	2.96	3.56	4.36	3.02	3.67	4.28	3.82	2.91	3.21	4.04	3.46
Interest Question Correct (%)	0.82	0.72	0.82	0.90	0.73	0.83	0.89	0.85	0.70	0.74	0.86	0.77
Inflation Question Correct (%)	0.77	0.63	0.76	0.87	0.68	0.77	0.85	0.80	0.57	0.66	0.84	0.74
Risk Question Correct (%)	0.55	0.37	0.51	0.73	0.41	0.53	0.69	0.58	0.42	0.42	0.62	0.47
Mortgage Question Correct (%)	0.84	0.75	0.83	0.91	0.71	0.85	0.93	0.86	0.68	0.79	0.82	0.82
Bond Question Correct (%)	0.35	0.25	0.31	0.48	0.23	0.34	0.47	0.36	0.27	0.31	0.49	0.30
Compounding Question Correct (%)	0.35	0.23	0.32	0.48	0.26	0.34	0.44	0.37	0.27	0.28	0.41	0.35
N	*2,672*	*621*	*1,154*	*897*	*815*	*903*	*954*	*2,092*	*280*	*147*	*71*	*82*

Note: 2015 NFCS respondents age 56-61 (see text). The financial literacy index is the number of correct answers to the six financial literacy questions discussed in the text.

Table 6. Financial Literacy by Debt Type for Older NFCS Respondents

	Total sample	Home mortgage	Home equity loans	Auto loan	Student loan for themselves	Alternative financial services	Unpaid medical bills	Overdraw the checking account occasionally	Credit card fees and expensive behaviors
Financial literacy index (0 to 6)	3.69	3.81	4.07	3.71	3.37	3.04	3.11	3.37	3.41
N	*2,672*	*990*	*288*	*790*	*171*	*467*	*498*	*357*	*615*

Note: 2015 NFCS respondents age 56-61 (see text). The financial literacy index is the number of correct answers to the six financial literacy questions discussed in the text.

Table 7. Multivariate Regression Model of Self-Assessed Debt and Financial Fragility among Older Respondents including Financial Literacy (Probit marginal effects): 2015 NFCS

	Having "Too much debt"	Financial fragility
Female	0.059***	0.046**
	(0.020)	(0.019)
Age	-0.014**	-0.009*
	(0.006)	(0.005)
African American	0.033	0.120***
	(0.032)	(0.033)
Hispanic	-0.050	0.037
	(0.040)	(0.042)
Asian	-0.099*	-0.106**
	(0.056)	(0.050)
Other	0.086	0.134**
	(0.058)	(0.061)
High school	0.074	-0.019
	(0.072)	(0.062)
Some college	0.089	-0.029
	(0.069)	(0.062)
College or more	0.060	-0.070
	(0.072)	(0.061)
Single	-0.075***	-0.001
	(0.027)	(0.027)
Separated or divorced	0.012	-0.033
	(0.027)	(0.024)
Widow	0.003	-0.018
	(0.044)	(0.039)
Having dependent children	0.065***	0.078***
	(0.025)	(0.026)
Income $15-25K	-0.049	-0.108***
	(0.037)	(0.027)
Income $25-35K	-0.010	-0.170***
	(0.043)	(0.022)
Income $35-50K	-0.098***	-0.236***
	(0.035)	(0.018)
Income $50-75K	-0.153***	-0.300***
	(0.033)	(0.017)
Income $75-100K	-0.196***	-0.310***
	(0.032)	(0.015)
Income $100-150K	-0.215***	-0.340***
	(0.032)	(0.013)
Income $150K+	-0.316***	-0.284***
	(0.023)	(0.012)
Financial literacy index	-0.015**	-0.037***
	(0.007)	(0.006)
N	*2,672*	*2,672*

Note: 2015 NFCS respondents age 56-61 (see text). The dummy variable *Having "Too much debt"* is the response to the following question: "How strongly do you agree or disagree with the following statement? 'I have too much debt right now.'" Outcome coded as 1 if their agreement ranged from 5 to 7, where 7 corresponds to "strongly agree" and 0 if their agreement ranges from 1 to 4. The dummy variable *Financial fragility* is the response to the following question: "How confident are you that you could come up with $2,000 if an unexpected need arose within the next month?" Outcome coded as 1 for those who certainly or probably could not come up with $2,000 and 0 for those who certainly or probably

could come up with $2,000. The variable *Financial literacy index* is the number of correct answers to the six financial literacy questions. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Self-Reported Financial Behaviors and Perceptions among Older Respondents, NFCS

	2009 NFCS
Do not know the interest rate they are paying on their auto loan*	30.5
Do not know the interest rate they are paying on their mortgage*	11.1
Do not know whether they have an interest-only mortgage or a mortgage with an interest-only option*	23.8
Do not know the interest charged on their credit card with the largest balance*	22.6
When getting their most recent auto loan, did not compare offers from different lenders*	51.2
When getting their mortgage in the previous 5 years, did not compare offers from different lenders*	38.1
When getting their most recent credit card, collected information about different cards from more than one company*	33.5
Did not check their credit score in the previous year	55.3
Did not obtain their credit report in the previous year	53.6
N	*4,543*

	2015 NFCS
Student loan for themselves, spouses/partners, children, grandchildren, or others	14.6
Did not try to figure out their future monthly payments*	55.8
Concerned about their ability to pay off student loans*	44.0
Do not know whether their payments are determined by their income*	20.0
If they could go through the borrowing process again, they would do something differently*	50.6
N	*2,672*

Note: 2009 NFCS respondents age 55-64, and 2015 NFCS respondents age 56-61 (see text).
* Values conditional on holding the asset or debt.

Appendix A: Descriptive Statistics for 2015 NFCS Respondents age 56-61 and our Analysis Sample

	Analysis Sample (N=2,672)	**Full Sample (N=2,942)**
Variables	Mean	Mean
Female	0.53	0.54
Age	58.53	58.51
African-American	0.10	0.11
Hispanic	0.05	0.06
Asian	0.03	0.03
Other	0.03	0.03
High school	0.21	0.22
Some college	0.43	0.43
College or more	0.33	0.32
Single	0.17	0.17
Separated or divorced	0.18	0.19
Widow	0.05	0.05
Having dependent children	0.20	0.21
Income $15-25K	0.12	0.13
Income $25-35K	0.08	0.09
Income $35-50K	0.15	0.15
Income $50-75K	0.19	0.18
Income $75-100K	0.15	0.14
Income $100-150K	0.14	0.13
Income $150K+	0.07	0.06

Note: NFCS respondents age 56-61. Analysis sample refers to respondents with complete information on all control and outcome variables of interest. Full sample refers to all respondents in that age group.

Appendix B: Factor analysis

The factor analysis we undertake sought to identify factors common to the many different sources of debt analyzed in the text. To this end, we performed a principal-component factor analysis and used the Kaiser criterion to determine the number of factors retained,[9] which retains two components for rotation to get a clearer pattern. The analysis below indicates that the two main underlying factors explain 39% of total variance, with 22% explained by the first factor and 17% explained by the second. Table B.1 shows the estimated rotated factor loadings, which are the correlations between each variable and the factors.[10] The higher the load, the more relevant is the variable in defining the factor's dimensionality, while a negative value indicates an inverse impact on the factor. The variables that with higher relevance (a lower variance unique to the variables themselves) are mortgage debt, alternative financial services, medical debt, and overdraws from the checking account.

Table B.1 here

The pattern that emerges from the factor loadings is consistent with the findings discussed in the paper, where we identified at least two different kinds of debt. The first factor (Factor 1) reported in Table B.1 is characterized by non-collateralized debt. Indeed, it is mainly defined by an expensive form of credit such as delaying payments, specifically with reference to unpaid medical bills that are past due, and borrowing from alternative credit providers that generate large fees and interest charges. A similar contribution to the definition of Factor 1 is from bank overdrafts which bring checking accounts into negative balance. In this case too, fees may be charged by banks, which vary depending on the amount of the negative balance or even the number of previous overdrafts. Moreover, in case that an account is not brought to a positive balance, individuals could also be charged additional negative balance fees. Given the expensive nature of these three forms of credit, this type of debt

[9] In principal component analysis, one of the most commonly used criteria for deciding the number of factors to be retained for rotation is the eigenvalue-one criterion, also known as the Kaiser criterion (Kaiser, 1960).
[10] We rotate the factor loadings using a varimax rotation, which produces orthogonal factors, i.e. not correlated to each other.

appears to be related to financial distress. Together with these three debt behaviors that generate high fees or interest rates, we also find that student loans play a role. Although these individuals borrowed against their future capacity for generating income, few earned a Bachelor's degree and many are close to retirement.

On the other hand, Factor 2 is defined by variables indicating long term sources of debt which are secured against properties. In fact, in this cluster we find home mortgages, home equity loans, and auto loans, which may not necessarily be motives for distress. While interest rates have been pretty low in recent years, high debt levels make people at older ages more sensitive to interest fluctuations, particularly where variable rate mortgages are prevalent. Finally, expensive credit card behaviors are mostly explained by Factor 1, but they also partly define Factor 2, a result that is similar to the conclusion drawn from the univariate analysis of debt by socio-demographics. This finding is also consistent with Lusardi and Tufano (2015) who found that the fee payers look most like the "average" American, with income distributed almost similarly as in the overall population, and other demographics such as age, gender, marital status, and race generally comparable to the entire sample. However, they have fewer financial assets than people engaged in the traditional financial system, and do not carry any balances on their credit cards. The factor loadings plot presented in Table 10 clearly shows these two diverse types of debt, with credit card fees and expensive behaviors having loadings of 0.49 for Factor 1, and 0.32 for Factor 2.

Table B.2 here

In order to better investigate how debt relates to financial problems, the principal-component factor analysis described in Tables 11 and 12 now includes indicators of financial fragility and perceived over-indebtedness, in addition to the sources of debt considered previously. While the identification of the two main different kinds of debt does not change, both of the two additional variables show a high relevance for the first factor, i.e. the one we interpreted as the latent variable representing expensive or problematic forms of credit.

Tables B.3 and B.4 here

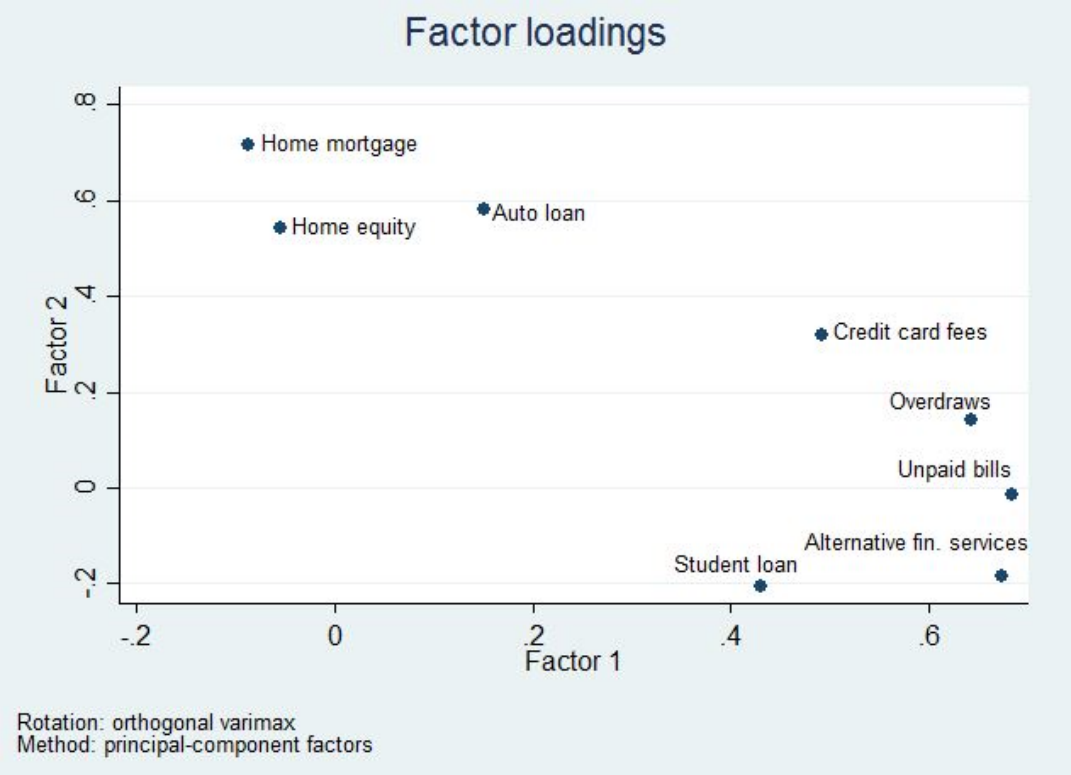
The indicator for the ability to cope with financial shocks clearly defines the first factor, and it has even a negative impact on the second one. The tight correlation between financial fragility and debt further confirms our previous research. Indeed, this is a multifaceted indicator that measures both lack of precautionary savings and other assets, and lack of borrowing capacity of highly leveraged households. A clear advantage of this measure is that it incorporates many elements of personal finance that are unobservable from outside the household, including the respondent's knowledge of pre-existing and foreseeable payment obligations (Hasler, Lusardi, and Oggero, 2018). Our second indicator of financial distress correlates with expensive borrowing behaviors as well, suggesting that these are the most problematic sources of debt and fee payments. However, contrary to the financial fragility indicator, the perceived over-indebtedness also displays a positive correlation with the long-term sources of collateralized debt, represented by a loading of 0.25 for Factor 2 (compared to a loading of 0.68 for Factor 1).

Appendix Table B.1. Rotated Factor Loadings and Unique Variances for Debt and Borrowing Behaviors for Older Respondents, 2015 NFCS

	Factor 1	Factor 2	Uniqueness
Home mortgage	-0.09	0.71	0.48
Home equity loans	-0.05	0.54	0.70
Auto loan	0.15	0.58	0.64
Student loan for themselves	0.43	-0.20	0.77
Alternative financial services	0.67	-0.18	0.51
Unpaid medical bills	0.68	-0.01	0.53
Overdraw the checking account occasionally	0.64	0.14	0.56
Credit card fees and expensive behaviors	0.49	0.32	0.66

Note: 2015 NFCS respondents age 56-61 (see text). Alternative financial services refer to the use of payday loans, auto title loans, rent-to-own or pawn shops. Credit card fees and expensive behaviors include paying the minimum only, paying late or over-the-limit fees, and using the card for cash advances.

Appendix Table B.2. Plot of Rotated Factor Loadings for Debt and Borrowing Behaviors for Older Respondents, 2015 NFCS



Appendix Table B.3. Rotated Factor Loadings and Unique Variances for Debt, Borrowing Behaviors, and Indicators of Financial Distress for Older Respondents, 2015 NFCS

	Factor 1	Factor 2	Uniqueness
Home mortgage	-0.07	0.70	0.51
Home equity loans	-0.05	0.52	0.73
Auto loan	0.09	0.58	0.65
Student loan for themselves	0.39	-0.16	0.82
Alternative financial services	0.61	-0.19	0.59
Unpaid medical bills	0.66	-0.01	0.56
Overdraw the checking account occasionally	0.54	0.13	0.69
Credit card fees and expensive behaviors	0.49	0.34	0.64
Having "Too much debt"	0.68	0.25	0.47
Financial fragility	0.69	-0.24	0.46

Note: 2015 NFCS respondents age 56-61 (see text). Alternative financial services refer to the use of payday loans, auto title loans, rent-to-own or pawn shops. Credit card fees and expensive behaviors include paying the minimum only, paying late or over-the-limit fees, and using the card for cash advances. *Having "Too much debt"* is coded as 1 if the agreement with the sentence 'I have too much debt right now' ranges from 5 to 7 on a 1 to 7 scale. *Financial fragility* is the coded as 1 for those who certainly or probably could not come up with $2,000 within a month.

Appendix Table B.4. Plot of Rotated Factor Loadings for Debt, Borrowing Behaviors, and Indicators of Financial Distress for Older Respondents, 2015 NFCS